Table 1

Polypeptide SEQ ID NO:	Nucleotide SEQ ID NO:	Clone ID	Library	Fragments
1	27	1288847	BRAINOT11	00334U1 (U937NOT01), 840916T6 (PROSTUT05), 1288847F6 (BRAINOT11), 1288847H1 (BRAINOT11), 1651772F6 (PROSTUT08), 2720131F6 (LUNGTUT10), 2954659F6 (KIDNFET01), 3321171H1 (PTHYNOT03), 3520878T6 (LUNGNON03), 3870826H1 (BMARNOT03), 5271406H1 (OVARDIN02), SBYA00334U1
2	28	1329044	PANCNOT07	04082U1 (HMC1NOT01), 1329044F1 (PANCNOT07), 1329044H1 (PANCNOT07), 1329044T1 (PANCNOT07), SBYA04082U1
3	29	1493630	PROSNON01	1493630H1 (PROSNON01), 1493630R6 (PROSNON01), 1493630T1 (PROSNON01)
4	30	1533041	SPLNNOT04	1533041F1 (SPLNNOT04), 1533041H1 (SPLNNOT04), 2688779F6 (LUNGNOT23), 3973608H1 (ADRETUT06)
5	31	1566162	HEALDIT02	1566162H1 (HEALDIT02), 1759922T6 (PITUNOT03)
6	32	1811831	PROSTUT12	1811831F6 (PROSTUT12), 1811831H1 (PROSTUT12)
7	33	1835447	BRAINON01	1835447H1 (BRAINON01), 1835447R6 (BRAINON01), 4523747H1 (HNT2TXT01), 5310808H1 (KIDETXS02)
8	34	3892281	BRSTTUT16	1948957R6 (PITUNOT01), 3892281H1 (BRSTTUT16), 3895852T6 (TLYMNOT05)
9	35	4318494	BRADDIT02	4318494F6 (BRADDIT02), 4318494H1 (BRADDIT02), 4318494T6 (BRADDIT02)
10	36	5090841	UTRSTMR01	742729H1 (PANCNOT04), 1329245H1 (PANCNOT07), 4539309H1 (THYRTMT01), 5090841F6 (UTRSTMR01), 5090841H1 (UTRSTMR01), 5153892H1 (HEARFET03)
11	37	2006548	TESTNOT03	1725329X11C1 (PROSNOT14), 2006548H1 (TESTNOT03), 3476792F6 (OVARNOT11), SBIA08125D1, SBIA01870D1
12	38	2207183	SINTFET03	191932F1 (SYNORAB01), 1273270F1 (TESTTUT02), 2207183H1 (SINTFET03), 2219907H1 (LUNGNOT18), 3336344H1 (SPLNNOT10)
13	39	2267403	UTRSNOT02	1449035F1 and 1449035R1 (PLACNOT02), 1599756F6 (BLADNOT03), 2267403H1 and 2267403R6 (UTRSNOT02), 3145756F6 (TESTNOT07)
14	40	2933038	THYMNON04	157761F1 (THP1PLB02), 2933038H1 (THYMNON04), 3294396F6 (TLYJINT01)

Table 1 (cont.)

Polypeptide SEQ ID NO:	Nucleotide SEQ ID NO:	Clone ID	Library	Fragments
15	41	3216587	TESTNOT07	3216587F6 and 3216587H2 (TESTNOT07), 341261H1 (PTHYNOT04), 4204275F6 (BRAITUT29), 431662F6 (BRAFNOT01), 5385916H1 (BRAINOT19)
16	42	5037143	LIVRTUT13	5035406H1, 5037143H1, and 5037690T6 (LIVRTUT13)
17	43	1235265	LUNGFET03	523352F1 (MMLR2DT01), 1262491R1 (SYNORAT05), 1699607F6 (BLADTUT05), 1717617H1 (UCMCNOT02), 1720254F6 (BLADNOT06), SBLA02298F1
18	44	5571181	TLYMNOT08	4348184T6 (TLYMTXT01), 4905349F6 (TLYMNOT08), 5571181H1 (TLYMNOT08)
19	45	685374	UTRSNOT02	111201R6 (PITUNOT01), 685374H1 (UTRSNOT02), 685374R6 (UTRSNOT02), 837768R1 (PROSNOT07), 1369176R6 (SCORNON02), 3321269H1 (PTHYNOT03), 4309489H1 (BRAUNOT01), 4943366F6 (BRAIFEN05), 5108512H1 (PROSTUS19)
20	46	843193	PROSTUT05	843193H1 (PROSTUT05), 843193X23 (PROSTUT05), 843193X25 (PROSTUT05), 96669R6 (KIDNTUT01), 4699738F6 (BRALNOT01), SZAL00006D1
21	47	1359783	LUNGNOT12	1359783F1 (LUNGNOT12), 1403716H1 (LATRTUT02), 2160063H1 (ENDCNOT02), 2464542H1 (THYRNOT08), 3423249H1 (UCMCNOT04), SANA00380F1, SANA02266F1, SANA02708F1, SANA00364F1, SANA01088F1, SANA03698F1
22	48	1440015	THYRNOT03	1440015H1 (THYRNOT03), 1462822H1 (PANCNOT04), 1577577F6 (LNODNOT03)
23	49	1652885	PROSTUT08	1478195T1 (CORPNOT02), 1652885F6 (PROSTUT08), 1652885H1 (PROSTUT08)
24	50	4003984	HNT2AZS07	4003984H1 (HNT2AZS07), 4003984R6 (HNT2AZS07), 4003984T6 (HNT2AZS07)
25	51	4365383	SKIRNOT01	4365383F6 (SKIRNOT01), 4365383H1 (SKIRNOT01), 5098601H2 (EPIMNON05), g3228929
26	52	5497814	BRABDIR01	5497814F6 (BRABDIR01), 5497814H1 (BRABDIR01)

Table 2

Polypeptide SEQ ID NO:	Amino Acid Residues	Potential Phosphorylation Sites	Potential Glycosylation Sites	Signature Sequence	Homologous Sequences	Analytical Methods and Databases
1	77	S62		Signal peptide: M1-T20		SPSCAN HMM
2	88	T3 S23 T59 S65		Signal peptide: M1-E26 or M1-S27		SPSCAN HMM
3	96	S20 S83 S91		Signal peptide: M1-G21 or M1-C22		SPSCAN HMM
4	104	S45 S90		Signal peptide: M1-S30 or M1-C26		SPSCAN HMM
5	60	S19		Signal peptide: M1-S19		SPSCAN HMM
6	117	T105 S40 S112 S40		Signal peptide: M1-A28 or M1-A31		SPSCAN HMM
7	86	S26		Signal peptide: M1-A24 or M1-P22 ATP/GTP binding site: G45-T52		SPSCAN HMM MOTIFS
8	109	S27 S69 S51		Signal peptide: M1-G23 or M1-A29		SPSCAN HMM
9	111	S45 S52 S74		Signal peptide: M1-S20		SPSCAN HMM
10	182	T161 S125 T148		Signal peptide: M1-A34 or M1-S31		SPSCAN HMM
11	105	T15 S64 Y94		Signal Peptide: M1-I22 Venom Protein A: A20-C96	Venom protein A (P25687) g6524951 Bv8 variant 3 precursor	BLAST-GenBank BLAST-SwissProt MOTIFS SPScan BLAST-PRODOM HMMER

Table 2 (cont.)

Polypeptide SEQ ID NO:	Amino Acid Residues	Potential Phosphorylation Sites	Potential Glycosylation Sites	Signature Sequence	Homologous Sequences	Analytical Methods and Databases
12	342	S48 S50 T61 T167 S194 S255 S14 S39 S74 T225 T334	N157 N192 N270 N281	Transmembrane Domain: L314-T334 EGF-like domain cysteine pattern signature: C294-C305 EGF domain:D258-Q308	g4689122 HSPC013 hematopoietic stem/progenitor cells	BLAST-GenBank MOTIFS HMMER BLAST - DOMO
13	451	S41 T62 S125 S142 T154 S182 S260 T281 S398 S444 T239 S328 T416	N114	Signal Peptide: M1-A25 ATP/GTP binding site motif A (P-loop): A251-T258 von Willebrand factor type C domains: C33-C95, C111-C174, C252-C314	g4808227 C-terminal part of a Chordin-like protein	BLAST-GenBank MOTIFS SPScan HMMER-PFAM, HMMER BLIMPS - PFAM
14	189	T64 S37		Signal Peptide : M1-P23 Interleukin-6/G-CSF: T65-F109 S151-A181	Y29783 Human interleukin B30	MOTIFS SPScan HMMER BLIMPS-BLOCKS BLIMPS-PRINTS BLAST-GENESEQ
15	216	S19 T49 T122 T191 S198 T49 T73 S105 T170	N47	Recoverin Family Signature: H34-F48, F48-G67, L94-L115, L118-N137, G140-M158, P164-F179, V190-L210 EF-hand Domains: K126-I154, H174-D202	Calsenilin (g4416432) A-type potassium channel modulatory protein 1 (g6969255)	BLAST-GenBank MOTIFS HMMER-PFAM BLIMPS-PRINTS

Table 2 (cont.)

Polypeptide SEQ ID NO:	Amino Acid Residues	Potential Phosphorylation Sites	Potential Glycosylation Sites	Signature Sequence	Homologous Sequences	Analytical Methods and Databases
16	178	T111 S174 T124		Signal Peptide: M1-G29 Pancreatic hormone peptide: A30-C65 Pancreatic hormone precursor: G149-L178	Pancreatic polypeptide precursor (g190270)	BLAST-GenBank MOTIFS HMMER SPScan ProfileScan HMMER-PFAM BLAST-PRODOM BLIMPS-PRINTS BLIMPS-BLOCKS
17	177	S168 T22 S43 S73 S115 S175	N5	Signal peptide: M1-A60	Fibrosin (g710336) _Mus musculus_	MOTIFS BLAST_GenBank SPSCAN
18	179	S64 S84 T99 T53 S86 S108 S126 T151 S173	N54 N68 N97	Signal peptide: M1-A33 Transmembrane domain: V8-L27	g6996554 TIF alpha protein	BLAST_GENBANK MOTIFS SPSCAN HMMR
19	213	S7 T39 S93 S155 S187 S112 Y46	N189 N202	G178-S185: ATP/GTP binding site Fibroblast growth factors: K14-P145 HBGF/FGF family signature: V58-S112, W116-P143	g4323515 Fibroblast growth factor 13 isoform 1B	Motifs BLAST_GENBANK HMMER_PFAM PROFILESCAN BLIMPS_BLOCKS BLIMPS_PRINTS BLAST_PRODOM BLAST_DOMO
20	239	S97 T99 T45 S71 S85 T92 S127 S144 T226 T232 Y81 Y130	N160	HBGF/FGF family signature: Q74-L201 Signal peptide: M1-P15 IL1/HBGF Family Signature: D149-H169	g3041790 Fibroblast growth factor FGF-17	Motifs BLAST_GENBANK SPSCAN HMMER_PFAM PROFILESCAN BLIMPS_BLOCKS BLIMPS_PRINTS BLAST_PRODOM BLAST_DOMO

Table 2 (cont.)

Polypeptide SEQ ID NO:	Amino Acid Residues	Potential Phosphorylation Sites	Potential Glycosylation Sites	Signature Sequence	Homologous Sequences	Analytical Methods and Databases
21	493	T251 T331 T340 S430 T132 S154 S287 S399 S402 T425 T475	N249	Signal peptide: M1-S17 EGF-like domain: C224-R299	g2429083 T16 EGF-like protein	Motifs BLAST-GENBANK SPSCAN HMMER BLIMPS_ BLOCKS BLAST_DOMO
22	121	S76 S76		Signal peptide: M1-D30 Bombesin-like peptides family signature: R46-M56, D30-R81 Bombesin family Neuromedin B Precursor threshold: G57-K121	g 189228 Neuromedin B [Homo sapiens]	Motifs BLAST_GENBANK HMMER SPSCAN BLIMPS_BLOCKS PROFILESCAN BLAST_PRODOM BLAST_DOMO
23	116	S16 S29 S86 S93			g2232301 FMRFamide-related prepropeptide [Homo sapiens]	Motifs BLAST_GENBANK
24	136	T60 S85 S129 S77 Y67	N58	Signal peptide: M1-A19	g6715115 agkisacutacin	BLAST_GENBANK Motifs SPSCAN
25	176	S19 S19 S72 S170 T6 S7 S107 T148		Interleukin-1: I20-P163 Interleukin-1 signature: Q92-E158	g6694392 FIL1 (IL1 family protein) zeta	BLAST_GENBANK Motifs HMMER_PFAM PROFILESCAN BLAST_DOMO
26	134	S102		Signal peptide: M1-H18		Motifs HMMER

Table 3

Nucleotide SEQ ID NO:	Selected Fragments	Tissue Expression (Fraction of Total)	Disease or Condition (Fraction of Total)	Vector
27	651-695	Nervous (0.321) Cardiovascular (0.143) Developmental (0.143)	Cancer (0.357) Inflammation (0.250) Fetal/Cell Proliferation (0.214)	pINCY
28	271-315	Developmental (1.000)	Fetal/Cell Proliferation (1.000)	pINCY
29	327-371	Reproductive (1.000)	Cancer (0.667) Trauma (0.333)	PSPORT1
30	640-684	Hematopoietic/Immune (0.333) Cardiovascular (0.167) Endocrine (0.167)	Cancer (0.667) Inflammation (0.333) Fetal/Cell Proliferation (0.167)	pINCY
31	1028-1072	Cardiovascular (0.333) Nervous (0.333) Reproductive (0.333)	Inflammation (0.667) Cancer (0.333)	PSPORT1
32	271-315	Endocrine (0.500) Reproductive (0.500)	Cancer (1.000)	pINCY
33	205-249	Nervous (0.750) Gastrointestinal (0.250)	Cancer (1.000) Fetal/Cell Proliferation (0.500)	PSPORT1
34	21-65	Reproductive (0.400) Hematopoietic/Immune (0.200) Nervous (0.200)	Cancer (0.400) Fetal/Cell Proliferation (0.200) Inflammation (0.200)	pINCY
35	273-317	Nervous (1.000)	Nervous (1.000)	pINCY
36	131-175	Reproductive (0.333) Gastrointestinal (0.222) Cardiovascular (0.111)	Cancer (0.333) Inflammation (0.222) Fetal/Cell Proliferation (0.111)	pINCY
37	58 - 87 376 - 405	Reproductive (1.000)	Cancer (0.750) Inflammation (0.250)	PBLUESCRIPT
38	109 - 168 415 - 474	Reproductive (0.300) Cardiovascular (0.143) Nervous (0.138) Gastrointestinal (0.113)	Cancer (0.488) Inflammation (0.330) Cell Proliferation (0.172)	pINCY
39	809 - 868 1229 - 1288	Reproductive (0.625) Gastrointestinal (0.188)	Cancer (0.438) Inflammation (0.437) Cell Proliferation (0.125)	PSPORT1
40	243 - 302	Hematopoietic/Immune (0.727) Dermatologic (0.091) Gastrointestinal (0.091) Reproductive (0.091)	Inflammation (0.545) Cell Proliferation (0.360) Cancer (0.182)	PSPORT1

Table 3 (cont.)

Nucleotide SEQ ID NO:	Selected Fragments	Tissue Expression (Fraction of Total)	Disease or Condition (Fraction of Total)	Vector
41	459 - 518	Nervous (0.555) Endocrine (0.111) Gastrointestinal (0.111) Reproductive (0.111) Cardiovascular (0.111)	Cancer (0.500) Neurological (0.111)	pINCY
42	241 - 300	Gastrointestinal (1.000)	Cancer (0.500)	pINCY
43	757-801	Reproductive (0.289) Hematopoietic/Immune (0.140) Nervous (0.132)	Cancer (0.465) Inflammation (0.360) Cell Proliferation (0.123)	pINCY
44	165-209 434-479	Hematopoietic/Immune (1.000)	Cancer (0.300) Inflammation (0.300)	pINCY
45	1-46	Nervous (0.375) Reproductive (0.313) Gastrointestinal (0.093)	Cancer (0.281) Inflammation (0.313)	PSPORT1
46	866-910	Urologic (0.500) Nervous (0.250) Reproductive (0.250)	Cancer (0.750) Inflammation (0.250)	PSPORT1
47	1029-1073	Cardiovascular (0.234) Reproductive (0.221) Nervous (0.182)	Cancer (0.455) Inflammation (0.331) Cell proliferation (0.143)	pINCY
48	76-120	Hematopoietic/Immune (0.308) Gastrointestinal (0.231) Nervous (0.154)	Cancer (0.308) Cell proliferation (0.231) Inflammation (0.308)	pINCY
49	111-155	Reproductive (0.333) Cardiovascular (0.167) Developmental (0.167) Nervous (0.167)	Cancer (0.750) Cell proliferation (0.167) Inflammation (0.083)	pINCY
50	218-262	Nervous (1.000)	Cell proliferation (1.000)	PSPORT1
51	109-153	Dermatologic (0.500) Reproductive (0.500)		pINCY
52	277-321	Nervous (1.000)	Neurological (1.000)	pINCY

Table 4

Nucleotide SEQ ID NO:	Library	Library Description
27	BRAINOT11	This library was constructed using RNA isolated from brain tissue removed from the right temporal lobe of a 5-year-old Caucasian male during a hemispherectomy. Pathology indicated extensive polymicrogyria and mild to moderate gliosis (predominantly subpial and subcortical), consistent with chronic seizure disorder. Family history included a cervical neoplasm.
28	PANCNOT07	This library was constructed using RNA isolated from the pancreatic tissue of a Caucasian male fetus, who died at 23 weeks' gestation.
29	PROSNON01	This normalized prostate library was constructed from 4.4 M independent clones from a prostate library. Starting RNA was made from prostate tissue removed from a 28-year-old Caucasian male who died from a self-inflicted gunshot wound. The normalization and hybridization conditions were adapted from Soares, M.B. et al. (1994) Proc. Natl. Acad. Sci. USA 91:9228-9232, using a longer (19 hour) reannealing hybridization period.
30	SPLNNOT04	This library was constructed using RNA isolated from the spleen tissue of a 2-year-old Hispanic male, who died from cerebral anoxia.
31	HEALDIT02	This library was constructed using RNA isolated from diseased left ventricle tissue removed from a 56-year-old male during a heart transplant. Patient history included cardiovascular disease and myocardial infarction.
32	PROSTUT12	This library was constructed using RNA isolated from prostate tumor tissue removed from a 65-year-old Caucasian male during a radical prostatectomy. Pathology indicated an adenocarcinoma (Gleason grade 2+2). Adenofibromatous hyperplasia was also present. The patient presented with elevated prostate specific antigen (PSA).
33	BRAINON01	This library was constructed and normalized from 4.88 million independent clones from a brain library. RNA was made from brain tissue removed from a 26-year-old Caucasian male during cranioplasty and excision of a cerebral meningeal lesion. Pathology for the associated tumor tissue indicated a grade 4 oligoastrocytoma in the right fronto-parietal part of the brain.
34	BRSTTUT16	This library was constructed using RNA isolated from breast tumor tissue removed from a 43-year-old Caucasian female during a unilateral extended simple mastectomy. Pathology indicated recurrent grade 4, nuclear grade 3, ductal carcinoma. Angiolymphatic space invasion was identified. Left breast needle biopsy indicated grade 4 ductal adenocarcinoma. Paraffin embedded tissue was estrogen positive. Patient history included breast cancer and deficiency anemia. Family history included cervical cancer.

Table 4 (cont.)

Nucleotide SEQ ID NO:	Library	Library Description
35	BRADDIT02	This library was constructed using RNA isolated from diseased choroid plexus tissue of the lateral ventricle removed from the brain of a 57-year-old Caucasian male, who died from a cerebrovascular accident. Patient history included Huntington's disease, and emphysema.
36	UTRSTMR01	This library was constructed using 1.5 micrograms of polyA RNA isolated from uterine myometrial tissue removed from a 41-year-old Caucasian female during a vaginal hysterectomy. The myometrium and cervix were unremarkable; the endometrium was secretory and contained fragments of endometrial polyps. Pathology for associated tumor tissue indicated uterine leiomyoma. Patient history included ventral hernia and a benign ovarian neoplasm.
37	TESTNOT03	The library was constructed using RNA isolated from testicular tissue removed from a 37-year-old Caucasian male, who died from liver disease. Patient history included cirrhosis, jaundice, and liver failure.
38	SINTFET03	The library was constructed using RNA isolated from small intestine tissue removed from a Caucasian female fetus, who died at 20 weeks' gestation.
39	UTRSNOT02	The library was constructed using RNA isolated from uterine tissue removed from a 34-year-old Caucasian female during a vaginal hysterectomy. Patient history included mitral valve disorder. Family history included stomach cancer, congenital heart anomaly, irritable bowel syndrome, ulcerative colitis, colon cancer, cerebrovascular disease, type II diabetes, and depression.
40	THYMNON04	The normalized thymus library was constructed using RNA isolated from thymus tissue removed from a 3-year-old Caucasian male, who died from anoxia.
41	TESTNOT07	The library was constructed using RNA isolated from testicular tissue removed from a 31-year-old Caucasian male during an unilateral orchiectomy (excision of testis). Pathology indicated a mass containing a large subcapsular hematoma with laceration of the tunica albuginea. The surrounding testicular parenchyma was extensively necrotic. The patient presented with a trunk injury.
42	LIVRTUT13	The library was constructed using RNA isolated from liver tumor tissue removed from a 62-year-old Caucasian female during partial hepatectomy and exploratory laparotomy. Pathology indicated metastatic intermediate grade neuroendocrine carcinoma, consistent with islet cell tumor, forming nodules ranging in size, in the lateral and medial left liver lobe. The pancreas showed fibrosis, chronic inflammation and fat necrosis consistent with pseudocyst. The gallbladder showed mild chronic cholecystitis. Patient history included malignant neoplasm of the pancreas tail, pulmonary embolism, hyperlipidemia, thrombophlebitis, joint pain in multiple joints, type II diabetes, benign hypertension, and cerebrovascular disease. Family history included pancreas cancer, secondary liver cancer, benign hypertension, and hyperlipidemia.

Table 4 (cont.)

Nucleotide SEQ ID NO:	Library	Library Description
43	LUNGFET03	Library was constructed using RNA isolated from lung tissue removed from a Caucasian female fetus, who died at 20 weeks' gestation.
44	TLYMNOT08	Library was constructed using RNA isolated from anergical/allogenic T-lymphocyte tissue removed from an adult (40-50-year-old) Caucasian male.The cells were incubated for 3 days in the presence of OKT3 mAb (1 microgram/mlOKT3) and 5% human serum.
45	UTRSNOT02	Library was constructed using RNA isolated from uterine tissue removed from a 34-year-old Caucasian female during a vaginal hysterectomy. Patient history included mitral valve disorder. Family history included stomach cancer, congenital heart anomaly, irritable bowel syndrome, ulcerative colitis, colon cancer, cerebrovascular disease, type II diabetes, and depression.
46	PROSTUT05	Library was constructed using RNA isolated from prostate tumor tissue removed from a 69-year-old Caucasian male during a radical prostatectomy. Pathology indicated adenocarcinoma (Gleason grade 3+4). Adenofibromatous hyperplasia was also present. Family history included congestive heart failure, multiple myeloma, hyperlipidemia, and rheumatoid arthritis.
47	LUNGNOT12	Library was constructed using RNA isolated from lung tissue removed from a 78-year-old Caucasian male during a segmental lung resection and regional lymph node resection. Pathology indicated fibrosis pleura was puckered, but not invaded. Pathology for the associated tumor tissue indicated an invasive pulmonary grade 3 adenocarcinoma. Patient history included cerebrovascular disease, arteriosclerotic coronary artery disease, thrombophlebitis, chronic obstructive pulmonary disease, and asthma. Family history included intracranial hematoma, cerebrovascular disease, arteriosclerotic coronary artery disease, and type I diabetes.
48	THYRNOT03	Library was constructed using RNA isolated from thyroid tissue removed from the left thyroid of a 28-year-old Caucasian female during a complete thyroidectomy. Pathology indicated a small nodule of adenomatous hyperplasia present in the left thyroid. Pathology for the associated tumor tissue indicated dominant follicular adenoma, forming a well-encapsulated mass in the left thyroid.
49	PROSTUT08	Library was constructed using RNA isolated from prostate tumor tissue removed from a 60-year-old Caucasian male during radical prostatectomy and regional lymph node excision. Pathology indicated an adenocarcinoma (Gleason grade 3+4). Adenofibromatous hyperplasia was also present. Patient history included a kidney cyst, and hematuria. Family history included tuberculosis, cerebrovascular disease, and arteriosclerotic coronary artery disease.

Table 4 (cont.)

Nucleotide SEQ ID NO:	Library	Library Description
50	HNT2AZS07	This subtracted library was constructed from RNA isolated from an hNT2 cell line (derived from a human teratocarcinoma that exhibited properties characteristic of a committed neuronal precursor) treated for three days with 0.35 micromolar AZ. The hybridization probe for subtraction was derived from a similarly constructed library from untreated hNT2 cells. 3.08M clones from the AZ-treated library were subjected to three rounds of subtractive hybridization with 3.04M clones from the untreated library. Subtractive hybridization conditions were based on the methodologies of Swaroop et al. (NAR (1991) 19:1954) and Bonaldo et al. (Genome Research (1996) 6:791).
51	SKIRNOT01	Library was constructed using RNA isolated from skin tissue removed from the breast of a 26-year-old Caucasian female during bilateral reduction mammoplasty.
52	BRABDIR01	Library was constructed using RNA isolated from diseased cerebellum tissue removed from the brain of a 57-year-old Caucasian male, who died from a cerebrovascular accident.

Table 5

Program	Description	Reference	Parameter Threshold
ABI FACTURA	A program that removes vector sequences and masks ambiguous bases in nucleic acid sequences.	Applied Biosystems, Foster City, CA.	
ABI/PARACEL FDF	A Fast Data Finder useful in comparing and annotating amino acid or nucleic acid sequences.	Applied Biosystems, Foster City, CA; Paracel Inc., Pasadena, CA.	Mismatch <50%
ABI AutoAssembler	A program that assembles nucleic acid sequences.	Applied Biosystems, Foster City, CA.	
BLAST	A Basic Local Alignment Search Tool useful in sequence similarity search for amino acid and nucleic acid sequences. BLAST includes five functions: blastp, blastn, blastx, tblastn, and tblastx.	Altschul, S.F. et al. (1990) J. Mol. Biol. 215:403-410; Altschul, S.F. et al. (1997) Nucleic Acids Res. 25:3389-3402.	*ESTs*: Probability value= 1.0E-8 or less *Full Length sequences*: Probability value= 1.0E-10 or less
FASTA	A Pearson and Lipman algorithm that searches for similarity between a query sequence and a group of sequences of the same type. FASTA comprises as least five functions: fasta, tfasta, fastx, tfastx, and ssearch.	Pearson, W.R. and D.J. Lipman (1988) Proc. Natl. Acad Sci. USA 85:2444-2448; Pearson, W.R. (1990) Methods Enzymol. 183:63-98; and Smith, T.F. and M.S. Waterman (1981) Adv. Appl. Math. 2:482-489.	*ESTs*: fasta E value=1.06E-6 *Assembled ESTs*: fasta Identity= 95% or greater and Match length=200 bases or greater; fastx E value=1.0E-8 or less *Full Length sequences*: fastx score=100 or greater
BLIMPS	A BLocks IMProved Searcher that matches a sequence against those in BLOCKS, PRINTS, DOMO, PRODOM, and PFAM databases to search for gene families, sequence homology, and structural fingerprint regions.	Henikoff, S. and J.G. Henikoff (1991) Nucleic Acids Res. 19:6565-6572; Henikoff, J.G. and S. Henikoff (1996) Methods Enzymol. 266:88-105; and Attwood, T.K. et al. (1997) J. Chem. Inf. Comput. Sci. 37:417-424.	Probability value= 1.0E-3 or less
HMMER	An algorithm for searching a query sequence against hidden Markov model (HMM)-based databases of protein family consensus sequences, such as PFAM.	Krogh, A. et al. (1994) J. Mol. Biol. 235:1501-1531; Sonnhammer, E.L.L. et al. (1988) Nucleic Acids Res. 26:320-322; Durbin, R. et al. (1998) Our World View, in a Nutshell, Cambridge Univ. Press, pp. 1-350.	*PFAM hits*: Probability value= 1.0E-3 or less *Signal peptide hits*: Score= 0 or greater

Table 5 (cont.)

Program	Description	Reference	Parameter Threshold
ProfileScan	An algorithm that searches for structural and sequence motifs in protein sequences that match sequence patterns defined in Prosite.	Gribskov, M. et al. (1988) CABIOS 4:61-66; Gribskov, M. et al. (1989) Methods Enzymol. 183:146-159; Bairoch, A. et al. (1997) Nucleic Acids Res. 25:217-221.	Normalized quality score≥GCG-specified "HIGH" value for that particular Prosite motif. Generally, score=1.4-2.1.
Phred	A base-calling algorithm that examines automated sequencer traces with high sensitivity and probability.	Ewing, B. et al. (1998) Genome Res. 8:175-185; Ewing, B. and P. Green (1998) Genome Res. 8:186-194.	
Phrap	A Phils Revised Assembly Program including SWAT and CrossMatch, programs based on efficient implementation of the Smith-Waterman algorithm, useful in searching sequence homology and assembling DNA sequences.	Smith, T.F. and M.S. Waterman (1981) Adv. Appl. Math. 2:482-489; Smith, T.F. and M.S. Waterman (1981) J. Mol. Biol. 147:195-197; and Green, P., University of Washington, Seattle, WA.	Score= 120 or greater; Match length= 56 or greater
Consed	A graphical tool for viewing and editing Phrap assemblies.	Gordon, D. et al. (1998) Genome Res. 8:195-202.	
SPScan	A weight matrix analysis program that scans protein sequences for the presence of secretory signal peptides.	Nielson, H. et al. (1997) Protein Engineering 10:1-6; Claverie, J.M. and S. Audic (1997) CABIOS 12:431-439.	Score=3.5 or greater
TMAP	A program that uses weight matrices to delineate transmembrane segments on protein sequences and determine orientation.	Persson, B. and P. Argos (1994) J. Mol. Biol. 237:182-192; Persson, B. and P. Argos (1996) Protein Sci. 5:363-371.	
TMHMMER	A program that uses a hidden Markov model (HMM) to delineate transmembrane segments on protein sequences and determine orientation.	Sonnhammer, E.L. et al. (1998) Proc. Sixth Intl. Conf. on Intelligent Systems for Mol. Biol., Glasgow et al., eds., The Am. Assoc. for Artificial Intelligence Press, Menlo Park, CA, pp. 175-182.	
Motifs	A program that searches amino acid sequences for patterns that matched those defined in Prosite.	Bairoch, A. et al. (1997) Nucleic Acids Res. 25:217-221; Wisconsin Package Program Manual, version 9, page M51-59, Genetics Computer Group, Madison, WI.	